



seq list.ST25.txt
SEQUENCE LISTING

<110> Davis, Ronald W.
Vaillancourt, Peter

<120> Dimeric Fluorescent Polypeptides

<130> 25436/1652

<140> US 10/021,818

<141> 2001-12-13

<150> US 60/256,121

<151> 2000-12-15

<160> 72

<170> PatentIn version 3.1

<210> 1

<211> 720

<212> DNA

<213> Renilla reniformis

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atattattcg gaaaccaact ggttcagatt cgtgtcacia aaggggtccc gcttccattt 180
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gaggatatat cagacttttt tatacaatca tttccagcgg gatttgtata cgaaagaacg 300
ttgcgttacg aagatggtgg actggttgaa atccgttcag atataaattt aatcgaggag 360
atgtttgtct acagagtggg atataaaggt agtaacttcc cgaatgatgg tccagtgatg 420

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aagaagacaa tcacaggatt acaaccttcg ttcgaagttg tgtatatgaa cgatggcgctc 480
ttggttgccc aagtcattct tgtttataga ttaaactctg gcaaatttta ttcgtgtcac 540
atgagaacac tgatgaaatc aaaggggtgta gtgaaggatt ttcccgaata ccatttcatt 600
caacatcggt tagagaagac tgatgtggaa gacggagggt ttgttgagca acacgagacg 660
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<210> 2

<211> 238

<212> PRT

<213> Renilla reniformis

<400> 2

Met Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met Ser
1 5 10 15
Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr Met
20 25 30
Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val Gln
35 40 45
Ile Arg Val Thr Lys Gly Val Pro Leu Pro Phe Ala Phe Asp Ile Leu
50 55 60
Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Glu
65 70 75 80
Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val Tyr
85 90 95
Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg Ser
100 105 110
Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr Arg Val Glu Tyr Lys
115 120 125
Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile Thr
130 135 140
Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val Leu
145 150 155 160

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Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe Tyr
165 170 175

Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys Asp
180 185 190

Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Asp Val
195 200 205

Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln Leu
210 215 220

Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
225 230 235

<210> 3

<211> 720

<212> DNA

<213> Artificial sequence

<220>

<223> R. reniformis GFP polynucleotide sequence adapted to humanize codon usage

<400> 3

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aacctggagg gcatcgtgaa caaccacgtg ttcacatgg agggctgcgg caagggcaac	120
atcctgttcg gcaaccagct ggtgcagatc cgcgtgacca agggcgcccc cctgcccttc	180
gccttcgaca tcgtgagccc cgccttccag tacggcaacc gcaccttcac caagtacccc	240
aacgacatca gcgactactt catccagagc ttccccgccg gcttcatgta cgagcgcacc	300
ctgcgctacg aggacggcgg cctggtggag atccgcagcg acatcaacct gatcgaggac	360
aagttcgtgt accgcgtgga gtacaagggc agcaacttcc ccgacgacgg ccccgtgatg	420
cagaagacca tcctgggcat cgagcccagc ttcgaggcca tgtacatgaa caacggcgtg	480
ctggtgggcg aggtgatcct ggtgtacaag ctgaacagcg gcaagtacta cagctgccac	540
atgaagaccc tgatgaagag caagggcgtg gtgaaggagt tcccctccta ccacttcac	600
cagcaccgcc tggagaagac ctacgtggag gacggcggct tcgtggagca gcacgagacc	660
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seq list.ST25.txt

<211> 239

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<223> Sequence of R. reniformis GFP polypeptide encoded by humanized R. reniformis GFP polynucleotide sequence

<400> 4

Met Val Ser Lys Gln Ile Leu Lys Asn Thr Gly Leu Gln Glu Ile Met
1 5 10 15

Ser Phe Lys Val Asn Leu Glu Gly Val Val Asn Asn His Val Phe Thr
20 25 30

Met Glu Gly Cys Gly Lys Gly Asn Ile Leu Phe Gly Asn Gln Leu Val
35 40 45

Gln Ile Arg Val Thr Lys Gly Ala Pro Leu Pro Phe Ala Phe Asp Ile
50 55 60

Leu Ser Pro Ala Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro
65 70 75 80

Glu Asp Ile Ser Asp Phe Phe Ile Gln Ser Phe Pro Ala Gly Phe Val
85 90 95

Thr Glu Arg Thr Leu Arg Tyr Glu Asp Gly Gly Leu Val Glu Ile Arg
100 105 110

Ser Asp Ile Asn Leu Ile Glu Glu Met Phe Val Tyr Arg Val Glu Tyr
115 120 125

Lys Gly Ser Asn Phe Pro Asn Asp Gly Pro Val Met Lys Lys Thr Ile
130 135 140

Thr Gly Leu Gln Pro Ser Phe Glu Val Val Tyr Met Asn Asp Gly Val
145 150 155 160

Leu Val Gly Gln Val Ile Leu Val Tyr Arg Leu Asn Ser Gly Lys Phe
165 170 175

Tyr Ser Cys His Met Arg Thr Leu Met Lys Ser Lys Gly Val Val Lys
180 185 190

Asp Phe Pro Glu Tyr His Phe Ile Gln His Arg Leu Glu Lys Thr Tyr
 195 200 205

Val Glu Asp Gly Gly Phe Val Glu Gln His Glu Thr Ala Ile Ala Gln
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Leu Thr Ser Leu Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val
 225 230 235

<210> 5

<211> 10

<212> PRT

<213> Artificial sequence

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<223> Synthetic peptide linker sequence

<400> 5

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<210> 6

<211> 15

<212> PRT

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<223> Synthetic linker peptide

<400> 6

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
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<212> PRT

<213> Artificial sequence

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seq list.ST25.txt

<223> Synthetic linker peptide

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Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser
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<210> 8

<211> 11

<212> PRT

<213> Artificial sequence

<220>

<223> Synthetic linker peptide

<400> 8

Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr
1 5 10

<210> 9

<211> 2

<212> PRT

<213> Artificial sequence

<220>

<223> synthetic linker peptide

<400> 9

Gly Ser
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<210> 10

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<400> 10

Gly Ser Gly Ser
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<210> 11

<211> 6

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<400> 11

Gly Ser Gly Ser Gly Ser
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<210> 12

<211> 8

<212> PRT

<213> Artificial Sequence

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<223> Synthetic linker peptide

<400> 12

Gly Ser Gly Ser Gly Ser Gly Ser
1 5

<210> 13

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Synthetic linker peptide

<400> 13

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10

<210> 14

<211> 12

<212> PRT

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<223> Synthetic linker peptide

<400> 14

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
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<210> 15

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<212> PRT

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<400> 15

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1 5 10

<210> 16

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<400> 16

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
 1 5 10 15

<210> 17

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<212> PRT

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<400> 17

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
 1 5 10 15

Gly Ser

<210> 18

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<400> 18

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
 1 5 10 15

Gly Ser Gly Ser
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<210> 19

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<212> PRT

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seq list.ST25.txt

<223> Synthetic linker peptide

<400> 19

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1 5 10 15

Gly Ser Gly Ser Gly Ser
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<210> 20

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 20

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Gly Ser Gly Ser
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<210> 21

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

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<400> 21

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
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<210> 22

<211> 28

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<400> 22

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
20 25

<210> 23

<211> 30

<212> PRT

<213> Artificial Sequence

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<400> 23

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
20 25 30

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Thr Ser Pro

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<210> 25

<211> 6

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<223> Synthetic linker peptide

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<211> 9

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Thr	Ser	Pro	Thr	Ser	Pro	Thr	Ser	Pro
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<210> 27

<211> 12

<212> PRT

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Thr	Ser	Pro	Thr	Ser	Pro	Thr	Ser	Pro	Thr	Ser	Pro
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<210> 28

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<400> 28

Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro
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<210> 29

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Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
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Ser Pro

<210> 30

<211> 21

<212> PRT

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<400> 30

Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
1 5 10 15

seq list.ST25.txt

Ser Pro Thr Ser Pro
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<210> 31

<211> 24

<212> PRT

<213> Artificial Sequence

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<400> 31

Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
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Ser Pro Thr Ser Pro Thr Ser Pro
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Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro
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<211> 30

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seq list.ST25.txt

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Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro
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<211> 33

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1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser
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Pro

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<212> PRT

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<223> Synthetic linker peptide

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1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser
Page 15

Pro Thr Ser Pro
35

<210> 36

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic linker peptide

<400> 36

Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser
20 25 30

Pro Thr Ser Pro Thr Ser Pro
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<210> 37

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<400> 37

Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr
1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser
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Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro
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<211> 45

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<400> 38

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1 5 10 15

Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser
20 25 30

Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro Thr Ser Pro
35 40 45

<210> 39

<211> 3

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Gly Gly Gly
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<210> 40

<211> 6

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Gly Gly Gly Gly Gly Gly
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<210> 41

<211> 9

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<400> 41

Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5

<210> 42

<211> 12

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<213> Artificial Sequence

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<400> 42

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
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<210> 43

<211> 15

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<400> 43

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
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seq list.ST25.txt

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<211> 18

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Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5 10 15

Gly Gly

<210> 45

<211> 21

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Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5 10 15

Gly Gly Gly Gly Gly
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<210> 46

<211> 24

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<220>

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seq list.ST25.txt

<400> 46

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Gly Gly Gly Gly Gly Gly Gly Gly
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<210> 47

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

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Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
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<210> 48

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 48

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1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

<210> 49

<211> 33

<212> PRT

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<220>

<223> Synthetic linker peptide

<400> 49

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1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

Gly

<210> 50

<211> 36

<212> PRT

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<223> Synthetic linker peptide

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1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

Gly Gly Gly Gly
35

<210> 51

<211> 39

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<213> Artificial Sequence

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seq list.ST25.txt

<223> Synthetic linker peptide

<400> 51

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1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

Gly Gly Gly Gly Gly Gly Gly
35

<210> 52

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<400> 52

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1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
35 40

<210> 53

<211> 45

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<213> Artificial Sequence

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<400> 53

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1 5 10 15

seq list.ST25.txt

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
35 40 45

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Glu Lys
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Glu Lys Glu Lys
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<210> 56

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<400> 56

Glu Lys Glu Lys Glu Lys
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<210> 57

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Glu Lys Glu Lys Glu Lys Glu Lys
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<210> 58

<211> 10

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<400> 58

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
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<210> 59

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<223> Synthetic linker peptide

<400> 59

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
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<210> 60

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<223> Synthetic linker peptide

<400> 60

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
 1 5 10

<210> 61

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 61

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
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<210> 62

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 62

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 1 5 10 15

Glu Lys

<210> 63

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

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<400> 63

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys
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<210> 64

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 64

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys Glu Lys
20

<210> 65

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 65

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys Glu Lys Glu Lys
20

<210> 66

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 66

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
20 25

<210> 67

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 67

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
20 25

<210> 68

seq list.ST25.txt

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 68

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
1 5 10 15

Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys Glu Lys
20 25 30

<210> 69

<211> 22

<212> PRT

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<223> Synthetic linker peptide

<400> 69

Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro
1 5 10 15

Arg Val Pro Val Ala Thr
20

<210> 70

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 70

Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro
 1 5 10 15

Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro Arg Val Pro Val Ala
 20 25 30

Thr

<210> 71

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic linker peptide

<400> 71

Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro
 1 5 10 15

Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro Arg Val Pro Val Ala
 20 25 30

Thr Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr
 35 40

<210> 72

<211> 55

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<223> Synthetic linker peptide

<400> 72

Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro
 1 5 10 15

Arg Val Pro Val Ala Thr Arg Ala Arg Asp Pro Arg Val Pro Val Ala
 20 25 30

seq list.ST25.txt

Thr Arg Ala Arg Asp Pro Arg Val Pro Val Ala Thr Arg Ala Arg Asp
35 40 45

Pro Arg Val Pro Val Ala Thr
50 55